AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A network switch system, comprising:

a plurality of network switches for providing an exchange of network packets, each of the network switches ~~including~~ comprising:

a forwarding database[[,]] ; and ~~wherein the network switch system is~~

~~capable of providing~~

a component providing at least one refresh packet, provided upon

receiving the network packets, to synchronize the forwarding

databases of the plurality of network switches[[,]] ; ~~and~~

wherein each of the plurality of network switches registers

the at least one refresh packet to the forwarding

database of the network switch upon receiving the

refresh packets[[.]], and

wherein the plurality of network switches include a first

switch and a second switch, each having a forwarding

database, the first switch sending a refresh packet to

the second switch when

a) the first switch receives a network packet

containing address information

indicating that the forwarding database

<u>of the first switch has no corresponding</u>

<u>address entry, or</u>

<u>b) the first switch receives a network packet</u>

<u>containing address information</u>

<u>indicating that a corresponding address</u>

<u>entry in the forwarding database of the</u>

<u>second network switch has expired.</u>

2. (Original) The system as claimed in claim 1, wherein the forwarding databases include at least one refresh timer in an address entry for recording the validity of a corresponding address entry in the forwarding databases of neighboring switches.

3. (Original) The system as claimed in claim 1, wherein the forwarding databases include an address entry having an age timer for the address entry that records the validity of the address entry, an address for the address entry, and associated port information for the address.

4. (Canceled)

5. (Original) The system as claimed in claim 1, wherein the plurality of network switches further comprises,

a plurality of first-level switches having a plurality of upward ports operating in a slave mode,

a plurality of second-level switches including a channeling switch,

wherein each of the first-level switches is configured to connect to each of the second-level switches,

wherein at least one second-level switch operates in a brain mode and at least one second-level switch operates in a master mode,

wherein the first-level switches providing a plurality of local ports for receiving and sending network packets, the upward ports of the first-level switches connecting to the second-level switches, the first-level switches sending the refresh packets to the second-level switches for synchronizing the forwarding databases of the second-level switches, and

wherein the second-level switches providing packet communications among the first-level switches, the second-level switch operating in the brain mode providing refresh packets to the first-level switches for synchronizing the forwarding databases of the first-level switches.

6. (Original) The system as claimed in claim 5, wherein when one of the first-level switches sends a network packet to one of the second first-level switches through the channeling switch and needs to send a refresh packet containing the source address information of the network packet, the first-level switch sends the refresh packet to each of the second-level switches except the channeling switch.

7. (Currently Amended) The system as claimed in claim 5, wherein when ~~one of~~ ~~the~~ a second-level switch needs to send a refresh packet from an initiating first-level switch, the second-level switch sends the refresh packet to each of the first-level switches except the initiating first-level switch.

8. (Currently Amended) The system as claimed in claim 5, wherein when ~~one of~~ ~~the~~ a second-level switch needs to send a refresh packet containing the source address information of a network packet from a first-level source switch, the second-level switch sends the refresh packet to each of the first-level switches except the first-level source switch.

9. (Original) The system as claimed in claim 5, wherein each of the first-level switches employs the upward ports as trunk ports for sending the network packets.

10. (Original) The system as claimed in claim 1, wherein the network switches are Ethernet switches.

11. (Currently Amended) A network switch system, comprising:

a plurality of first-level switches operating in a slave mode, the first-level switches

providing a plurality of local ports for receiving and sending network

packets; and

a plurality of second-level switches operating in one of brain mode or master

mode,

wherein[[,]] the first-level switches include[[s]] a plurality of upward ports

connecting to the second-level switches, each of the first-level

switches and the second-level switches having a forwarding

database,

wherein the first-level switches send[[s]] ~~the~~ refresh packets to the

second-level switches, for synchronizing the forwarding databases

of the second-level switches, <u>when</u>

> <u>a) the first-level switch receives a network packet containing</u>
>
> <u>address information indicating that the forwarding</u>
>
> <u>database of the first-level switch has no</u>
>
> <u>corresponding address entry, or</u>
>
> <u>b) the first-level switch receives a network packet containing</u>
>
> <u>address information indicating that a corresponding</u>
>
> <u>address entry in the forwarding databases of one of</u>
>
> <u>the second-level switches has expired,</u>

wherein the second-level switches provid[[ing]]<u>e</u> packet communications

among the first-level switches, and

wherein a second-level switch operating in the brain mode ~~providing~~

<u>provides</u> refresh packets to the first-level switches for synchronizing

the forwarding databases of the first-level switches.

12. (Original) The system as claimed in claim 11, wherein each of the first-level and second-level switches registers the refresh packets information to the forwarding databases upon receiving the refresh packets.

13. (Original) The system as claimed in claim 11, wherein the forwarding databases of the first-level switches include at least one refresh timer in an address entry for recording the validity of a corresponding address entry in the forwarding databases of the second-level switches.

14. (Original) The system as claimed in claim 11, wherein the forwarding database of the second-level switch operating in the brain mode includes a refresh timer in an address entry for recording the validity of a corresponding address entry in the forwarding databases of the first-level switches.

15. (Original) The system as claimed in claim 11, wherein the forwarding databases of the first-level and second-level switches include an address entry containing an age timer for the address entry to record the validity of the address entry, an address for the address entry, and associated port information for the address.

16. (Canceled)

17. (Original) The system as claimed in claim 11, wherein the second-level switch operating in the brain mode sends a refresh packet to the first-level switches

connected with the second-level switch if the second-level switch operating in the brain

mode receives a network packet, and the network packet contains address information

that the forwarding database of the second-level switch operating in the brain mode has

no corresponding address entry, the network packet containing address information that

corresponding address entries in the forwarding databases of the first-level switches

have expired, or the second-level switch operating in the brain mode receives an

incoming refresh packet from the first-level switches.

18. (Original) The system as claimed in claim 11, wherein when one of the first-

level switches sends a network packet to one of the second first-level switches through

a channeling second-level switch and needs to send a refresh packet containing the

source address information of the network packet, the first-level switch sends the

refresh packet to each of the second-level switches except the channeling second-level

switch.

19. (Original) The system as claimed in claim 11, wherein when one of the

second-level switches needs to send a refresh packet coming from a first-level initiating

switch or containing the source address information of a network packet from a first-

level source switch, the second-level switch sends the refresh packet to each of the

first-level switches except the first-level initiating switch and the first-level source switch.

20. (Currently Amended) A method for operating a network switch in a slave mode within a network switch system, the slave switch having a forwarding database, comprising:

receiving a network packet;

sending an outgoing refresh packet to neighboring switches when

a) the network packet contains address information indicating that the slave switch has no corresponding record in the forwarding database of the slave switch, or

b) the network packet contains address information indicating that corresponding address entries in the forwarding databases of the neighboring switches have expired, wherein the slave switch sends the outgoing refresh packet to synchronize the forwarding databases of the neighboring switches;

registering the address information of the network packet to the forwarding database of the slave switch; and

registering the address information of an incoming refresh packet to the forwarding database of the slave switch upon receiving the incoming refresh packet.

21. (Original) The method as claimed in claim 20, further comprising:

looking up the destination port of the network packet in the forwarding database of the slave switch;

sending the network packet to the destination port; and

broadcasting the network packet when the forwarding database of the slave switch has no corresponding destination port information for the network packet.

22. (Original) The method as claimed in claim 20, wherein the forwarding database of the slave switch includes a refresh timer in an address entry for recording the validity of a corresponding address entry in the forwarding databases of the neighboring switches.

23. (Original) The method as claimed in claim 20, wherein the forwarding database of the slave switch includes an address entry containing an age timer for the address entry that records the validity of the address entry, an address for the address entry, and associated port information for the address.

24. (Original) The method as claimed in claim 20, wherein the slave switch provides local ports for receiving and sending network packets and upward ports connecting to the neighboring switches.

25. (Original) The method as claimed in claim 20, wherein when the slave switch sends the network packet to a channeling switch and needs to send the outgoing refresh packet containing the source address information of the network packet, the slave switch sends the outgoing refresh packet to all the neighboring switches except the channeling switch.

26. (Original) The method as claimed in claim 20, wherein the neighboring switches includes network switches operating in a brain mode or a master mode.

27. (Currently Amended) A method of operating a network switch in a brain mode within a network switch system, the ~~brain~~ network switch having a forwarding database, comprising:

receiving a network packet;

sending an outgoing refresh packet to neighboring switches when

a) the network packet contains address information indicating that the forwarding database of the brain switch has no corresponding address entry[[,]] or

b) the network packet contains address information indicating that corresponding address entries in the forwarding databases of the neighboring switches have expired~~, or the brain switch receives an incoming refresh packet from the neighboring switches, wherein the brain switch sends the outgoing refresh packet to synchronize the forwarding databases of the neighboring switches~~; and

registering the address information of the network packet to the forwarding database of the brain switch[[.]] ,

wherein the brain switch receives an incoming refresh packet from the neighboring switches, and sends the outgoing refresh

packet to synchronize the forwarding databases of the

neighboring switches.

28. (Original) The method as claimed in claim 27, further comprising:

looking up the destination port of the network packet in the forwarding database

of the brain switch;

sending the network packet to the destination port; and

broadcasting the network packet if the forwarding database of the brain switch

has no corresponding destination port information for the network packet.

29. (Original) The method as claimed in claim 27, wherein the forwarding

database of the brain switch includes a refresh timer in an address entry that records

the validity of corresponding address entries of the forwarding databases of the

neighboring switches.

30. (Currently Amended) A method of operating a network switch in a master

mode within a network switch system, the master switch having a forwarding database,

comprising:

receiving an incoming network packet;

registering address information of an incoming refresh packet to the forwarding

database of the master switch upon receiving the incoming refresh packet;

looking up the destination port of the incoming network packet in the forwarding

database of the master switch;

sending the incoming network packet to the destination port; and

broadcasting the incoming network packet when the forwarding database does

not have corresponding destination port information[[.]],

wherein,

a neighboring switch of the master switch sends the refresh packet

to the master switch when

a) the neighboring switch receives an original network

packet, and the original network packet

contains address information indicating that the

forwarding database of the neighboring switch

has no corresponding address entry, or

b) the neighboring switch receives an original network

packet, and the original network packet

contains address information indicating that a

corresponding address entry in the forwarding

databases of the master switch has expired.

31. (Original) The method as claimed in claim 30, wherein the incoming refresh

packet contains address and corresponding port information.

32. (Canceled)

33. (Original) The method as claimed in claim 30, wherein the forwarding database of the master switch includes an address entry containing an age timer for the address entry that records the validity of the address entry, an address for the address entry, and associated port information for the address.

34. (Original) The method as claimed in claim 30, wherein the master switch connects to neighboring switches within the network switch system and the neighboring switches operate in a slave mode.

35. (Currently Amended) A method for stacking network switches, comprising:

providing a plurality of network switches, including first and second switches, for

providing an exchange of network packets;

providing a forwarding database for each of the network switches;

providing at least one refresh packet to synchronize the forwarding databases of

the plurality of network switches upon receiving the network packets; and

registering the refresh packet for each of the plurality of network switches to the

forwarding databases[[.]]

wherein the first switch sends a refresh packet to a second switch when

a) the first switch receives a network packet and the network

packet contains address information indicating that

the forwarding database of the first switch has no

corresponding address entry, or

<u>b) the first switch receives a network packet and the network</u>

<u>packet contains address information that a</u>

<u>corresponding address entry in the forwarding</u>

<u>database of the second switch has expired.</u>

36. (Canceled)

37. (Original) The method as claimed in claim 35, further comprising,

providing a plurality of first-level switches having a plurality of upward ports

operating in a slave mode,

providing a plurality of second-level switches including a channeling switch,

operating at least one second-level switch operates in a brain mode,

operating at least one second-level switch operates in a master mode,

providing a plurality of local ports in the first-level switches for receiving and

sending network packets,

connecting the upward ports of the first-level switches to the second-level

switches,

sending the refresh packets to the second-level switches for synchronizing the

forwarding databases of the second-level switches, and

providing packet communications among the first-level switches, and

providing refresh packets to the first-level switches for synchronizing the forwarding

databases of the first-level switches.

38. (Original) The method as claimed in claim 37, further comprising sending the refresh packet to each of the second-level switches except the channeling switch when one of the first-level switches sends a network packet to one of the second first-level switches through the channeling switch and needs to send a refresh packet containing the source address information of the network packet.

39. (Original) The system as claimed in claim 37, further comprising sending the refresh packet to each of the first-level switches except the initiating first-level switch when one of the second-level switch needs to send a refresh packet from an initiating first-level switch.

40. (Original) The system as claimed in claim 37, further comprising sending the refresh packet to each of the first-level switches except the first-level source switch when one of the second-level switch needs to send a refresh packet containing the source address information of a network packet from a first-level source switch.